



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/695,018	10/27/2003	Chi-Hsing Hsu	JCLA11476	4247
23900	7590	04/15/2005	EXAMINER	
J C PATENTS, INC. 4 VENTURE, SUITE 250 IRVINE, CA 92618			FARAHANI, DANA	
			ART UNIT	PAPER NUMBER
			2891	

DATE MAILED: 04/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/695,018

Applicant(s)

HSU ET AL.

Examiner

Dana Farahani

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☒ Claim(s) 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Drawings***

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference characters not mentioned in the description: 132a and 132b. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference characters in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claim Objections***

2. Claim 16 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to farther limit the subject matter of the previous claim, claim 15. Applicant is required to cancel the claim, or amend the claim to place the claim in proper dependent form, or rewrite the claim in independent form..

*Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-5, 7-9, and 11-19 are rejected under 35 U.S.C. 102(e) as being anticipated by Applicant's Admitted Prior Art (AAPA).

Regarding claims 1, 2, 7, 8, 12, and 13, AAPA discloses in figure 1A a chip package structure comprising:

a carrier 110 having a surface, a power pad 116 and a ground pad 114, the surface having a die bonding area at the far left, the power pad and the ground pad being on the surface, the power pad and the ground pad being disposed outside the die bonding area;

a die 120 having an active surface and a backside corresponding to the active surface, the backside being attached to the die bonding area on the surface of the carrier, the die having a plurality of die pads 126 on the active surface;

at least a passive component 130 disposed between the power pad and the ground pad, the passive component having at least two electrodes 132a and 132b connected to the power pad and ground pad; and

at least a first conductive wire 136 having two ends connected to one of the plurality of die pads and one of the electrodes 132a (by means of the power pad 116) respectively.

Regarding claim 3, AAPA discloses a signal pad 118.

Regarding claims 4, 5, 9, and 11, a second conducting wire 138 connected to another one of the plurality of die pads and the signal pad.

Regarding claim 14, AAPA discloses in figure 1A a carrier 110 having a surface, a power pad 116 and a ground pad 114, the surface having a die bonding area 112, the power pad and the ground pad being on the surface, the power pad and the ground pad being disposed outside the die bonding area;

a die 120 having an active surface 124 and a backside 122 corresponding to the active surface, the backside being attached to the die bonding area on the surface of the carrier, the die having a plurality of die pads 126 on the active surface;

at least a passive component 130 disposed between the power pad and the ground pad, the passive component having at least two electrodes 132a and 132b connected to the power pad and the ground pad respectively; and

at least a single first conducting wire 136 having two ends connected to one of the plurality of die pads and one of the electrodes 132a, respectively.

Regarding claims 15 and 16, the carrier comprises a signal pad 118, the signal pad being disposed outside the die bonding area and farther from the die bonding area than the power pad and the ground pad.

Regarding claims 17 and 19, AAPA discloses in figure 1A a wire bonding package structure for electrically connecting a die 120 to a carrier 110, the carrier having a surface and a die bonding area 112 on the surface, the die having an active surface 124 and a backside 122 corresponding to the active surface, the backside of the die being attached to die bonding area, the wire bonding package structure at least comprising:

- a power pad 116 on the surface of the carrier;

- a ground pad 114 on the surface of the carrier;

- a signal pad 118 on the surface of the carrier, the power pad, the ground pad and the signal pad being disposed outside the die bonding are, wherein the signal pad being farther from the die bonding area than the power pad and the ground pad, as can be seen in the figure;

- a passive component 130 disposed between the power pad and the ground pad, the passive component having at least two electrodes 132a and 132b electrically and physically connected to the power pad and the ground pad respectively;

- a plurality of die pads 126 on the active surface of the die;

- a first single conducting wire 136 having two ends connected, by means of 116, to one of the die pads and one of the electrodes (132a) respectively;

a dielectric material over the chip, passive component and the wires (see specification, line 7); and

a second single conducting wire 138 having two ends connected to another one of the die pads and the signal pad respectively, wherein the second conducting wire crossing over the passive component, as can be seen in the figure.

Regarding claim 18, the passive component is an inductor or a capacitor (see AAPA, paragraph 5, line 18).

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA.

AAPA substantially discloses the claimed invention, as discussed above, except for the electrodes being Ni, Au or Ni/Au alloy. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use these materials for in the electrodes of the passive component because of their excellent conductive properties.


*Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dana Farahani whose telephone number is (571)272-1706. The examiner can normally be reached on M-F 9:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bill Baumeister can be reached on (571)272-1722. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

D. Farahani

  
DAVID ZARNEKE  
PRIMARY EXAMINER  
4/12/05